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Baker Botts LLP  
2001 Ross Avenue  
Dallas, TX 75201-2980

EXAMINER

MILLS, DONALD L

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/588,632

Applicant(s)

MO ET AL.

Examiner

Donald L. Mills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 8-12 and 15-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12 and 15-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, 8-12, and 15-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheesman et al. (US 6,680,933 B1), hereinafter referred to as Cheesman, in view of Armitage et al. (US 6,374,303 B1), hereinafter referred to as Armitage.

Regarding claim 1, Cheesman discloses a telecommunications switch for switching protocol data, which comprises:

*Receiving connectionless and connection oriented signals from a plurality of source peripheral network elements at an ingress core network element* (Referring to Figure 4, the switch **100** supporting connection-oriented and connectionless type service, receives signals at a location between access interfaces and network interfaces for traffic management. See column 8, lines 8-10.)

*Determining a signaling type associated with each received signal, the signaling type comprising connectionless signaling or connection oriented signaling* (Referring to Figure 5, the ingress processor **112** parses each incoming protocol data unit to determine the service to which it belongs, comprising ATM and IP/MPLS. See column 8, lines 30-33.)

*Appending a transport label to each received signal at the ingress core network element based upon the determination of the signaling type, each transport label comprising an indication of the signal's signaling type (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information. See column 8, lines 42-47.)*

*Communicating the signals and appended transport labels toward destination peripheral network elements according to signaling procedures associated with each signal's signaling type (Referring to Figure 5, egress processor 114 parses the protocol data units received from the switching fabric 103 to determine the required type of scheduling and scheduling treatment based on the signal type for output towards the protocol data units destination. See column 8, lines 62-67.)*

*Cheesman does not disclose a plurality of sub-transport labels, each sub-transport label identifying a single hop of a plurality of hops between the ingress core network element and an egress core network element for a connectionless signal or identifying a single path segment of a plurality of path segments between the ingress core network element and the egress core network element for a connection oriented signal.*

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17.)

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing.

Regarding claim 2, the primary reference further teaches *wherein the signaling type associated with a particular signal further comprises a combination of connectionless and connection oriented signaling* (Referring to Figure 5, the ingress processor 112 parses each incoming protocol data unit to determine the service to which it belongs, comprising ATM and IP/MPLS signaling. See column 8, lines 30-33.)

Regarding claim 3, the primary reference further teaches *wherein at least some of the plurality of signals comprise Multi-protocol label switching signals, and wherein at least some of the plurality of signals comprise Internet Protocol signals* (Referring to Figure 5, the ingress processor 112 parses each incoming protocol data unit to determine the service to which it belongs, comprising IP/MPLS signals. See column 8, lines 30-33.)

Regarding claims 5, 20, and 28, the primary reference further teaches *wherein each transport label comprises:*

*A format field operable to identify the signal's signaling type/a label value field containing information useful in processing the associated signal according to its signaling type* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising service-related information and a destination port. See column 8, lines 42-47.)

Regarding claim 8, the primary reference further teaches *each sub-transport label provides an instruction regarding the associated signal's communication toward one of the destination peripheral network elements* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information. See column 8, lines 42-47.)

Regarding claims 9, 21, and 29 as explained in the rejection of claims 1, 19, and 27; Cheesman and Armitage teach all of the claim limitations of claims 1, 19, and 27 (parent claims).

Cheesman does not disclose *wherein the plurality of sub-transport labels comprise a stack of sub-transport labels, and wherein the top sub-transport label identifies the node identification useful in determining the next hop or the path identification.*

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing.

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Regarding claims 10, 22, and 30 as explained in the rejection of claims 1, 19, and 27; Cheesman and Armitage teach all of claim limitations of claims 1, 19, and 27 (parent claims).

Cheesman does not disclose *wherein the sub-transport label at the bottom of the stack of sub-transport labels includes the interface identifier operable to specify the interface of the egress core network element between the ingress core network element processing the signal and the one or more destination peripheral network elements.*

Note, the Applicant describes the interface identifier as “information specifying addresses of interfaces facilitating communication between a core network element 13 and various peripheral network elements 18-24” (See page 11, lines 16-21; page 18, lines 15-29; page 21, lines 4-14; and page 31, lines 3-16.) Therefore, the Examiner interprets the *interface identifier* as information for specifying a path through the network from the core network element to the destination network element.

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17,) located at the bottom of the stack.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby

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improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing.

Regarding claim 11, Cheesman discloses a telecommunications switch for switching protocol data, which comprises:

*Receiving connectionless signals and connection oriented signals at a first network element, each signal including a transport label having a format field identifying a signaling type associated with the signal, a label value field containing information useful in processing the signal according to its signaling type* (Referring to Figure 5, the egress processor 114 parses the protocol data units received from the switching fabric 103, inherently comprising both connection-oriented and connectionless type packet data units with a switching tag comprising information of the destination port and service-related information. See column 8, lines 62-64, 32-33, and 42-47.)

*For each signal, examining the format field of the transport label to determine the signal's signaling type* (Referring to Figure 5, the egress processor 114 parses the protocol data units received from the switching fabric 103 to determine the required type of scheduling and queuing treatment based upon the type of traffic and service-related information. See column 8, lines 62-64.)

*For each signal, interpreting the information in the label value field on the transport label according to the signal type* (Referring to Figure 5, the egress processor 114 parses the protocol data units received from the switching fabric 103 to determine the required type of scheduling and queuing treatment based upon the type of traffic and destination port. See column 8, lines 62-64.)



*For each signal, communicating the signal to another network element using signaling procedures associated with the signal's signaling type (Referring to Figure 6, the egress processor 114 transmits the protocol data unit onto the egress link 130 based upon the type of signal received. See column 9, lines 58-60.)*

*Cheesman does not disclose a stack of sub-transport labels, each sub-transport label providing an instruction regarding the associated signal's communication toward one of the destination peripheral network element, and wherein the top sub-transport label identifies a node identification useful in determining a next hop for a connectionless signal or a path identification useful in determining a virtual circuit for a connection oriented signal wherein the bottom sub-transport label includes an interface identifier operable to specify an interface of an egress core network element between the ingress core network element processing the signal and the destination peripheral network element.*

Note, the Applicant describes the interface identifier as "information specifying addresses of interfaces facilitating communication between a core network element 13 and various peripheral network elements 18-24" (See page 11, lines 16-21; page 18, lines 15-29; page 21, lines 4-14; and page 31, lines 3-16.) Therefore, the Examiner interprets the *interface identifier* as information for specifying a path through the network from the core network element to the destination network element.

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (path of a

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plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17,) from source to destination network element

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing.

Regarding claim 12, the primary reference further teaches *wherein the signaling type associated with a particular signal further comprises a combination of connectionless and connection oriented signaling* (Referring to Figure 5, the ingress processor 112 parses each incoming protocol data unit to determine the service to which it belongs, comprising ATM and IP/MPLS signaling. See column 8, lines 30-33.)

Regarding claim 15, the primary reference further teaches *examining the top sub-transport label to determine that the signal comprises a connectionless signal and comparing the value in the label value field of the top sub-transport label to a node identification associated with the first network element* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal. See column 8, lines 42-47.)

Regarding claim 16, the primary reference further teaches *determining that the node identification associated with the first network element does not match the value in the label*

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*value field of the transport label and routing the signal toward the network element associated with the node identification in the label value field of the top sub-transport label* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal, the comparison is made in the routing table. See column 8, lines 42-47.)

Regarding claims 17 and 36 as explained above in the rejection statement of claims 1 and 11; Cheesman and Armitage teach all of the claim limitations of claims 1 and 11 (parent claims.) Cheesman further discloses *receiving the signals and transport labels at the egress core network element* (Referring to Figure 5, egress processor 114 parses the protocol data units received from the switching fabric 103 to determine the required type of scheduling and scheduling treatment based on the switching tag. See column 8, lines 62-67.)

Cheesman does not disclose *removing the appended transport labels form each signal and communicating each signal to a destination peripheral network element.*

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17.) As the message is propagated along the path towards the destination, a new MEE is constructed which omits the first (previous) address (See column 7, lines 20-27.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing. An additional benefit of doing so would result in the reduction of data-storage requirements of the network devices for MPLS traffic.

Regarding claim 18, the primary reference further teaches *examining the top sub-transport label to determine that the signal comprises a connection oriented signal and that the label-value field in the top sub-transport label comprises a path identifier; and using the value in the label value field of the top sub-transport label to at least being establishing a virtual circuit between the first network element and another network element* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal. See column 8, lines 42-47.)

Regarding claim 19, Cheesman discloses a telecommunications switch for switching protocol data, which comprises:

*A first core network element comprising an ingress core network element operable to receive a signal associated with a signaling type from a source peripheral network element, the signaling type comprising connectionless signaling or connection oriented signaling* (Referring

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to Figure 4, ingress processor 112 parses each incoming protocol data unit, from connection and connectionless sources, to determine the service. See column 8, lines 8-10 and 30-31,) *the first core network element further operable to append to the received signal a transport label including an instruction regarding how to process the signal according to the signaling type* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information. See column 8, lines 42-47.)

*A second core network element operable to receive the signal with appended transport label, to examine transport label to determine the signaling type associated with the signal, and to process the signal according to the associated signaling type* (Referring to Figure 5, egress processor 114 parses the protocol data units received from the switching fabric 103 to determine the required type of scheduling and scheduling treatment based on the signal type for output towards the protocol data units destination. See column 8, lines 62-67.)

Cheesman does not disclose *a plurality of sub-transport labels, each sub-transport label identifying a single hop of a plurality of hops between the ingress core network element and an egress core network element for connectionless signal or identifying a single path segment of a plurality of path segments between the ingress core network element and the egress core network element for a connection oriented signal.*

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a

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plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing.

Regarding claims 23 and 31, the primary reference further teaches *examining the top sub-transport label to determine that the signal comprises a connectionless signal and comparing the value in the label value field of the top sub-transport label to a node identification associated with the first network element* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal. See column 8, lines 42-47.)

Regarding claims 24 and 32, the primary reference further teaches *determining that the node identification associated with the first network element does not match the value in the label value field of the transport label and routing the signal toward the network element associated with the node identification in the label value field of the top sub-transport label* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node

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information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal, the comparison is made in the routing table. See column 8, lines 42-47.)

Regarding claims 25 and 33, the primary reference further teaches *determining that the node identification associated with the first network element matches the value in the label value field of the top sub-transport label; removing the top sub-transport label from the stack of sub-transport labels; and examining the next sub-transport label to determine further processing instructions* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal. See column 8, lines 42-47.)

Regarding claims 26 and 34, the primary reference further teaches *examining the top sub-transport label to determine that the signal comprises a connection oriented signal and that the label-value field in the top sub-transport label comprises a path identifier; and using the value in the label value field of the top sub-transport label to at least being establishing a virtual circuit between the first network element and another network element* (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, the PDU comprises the node information used for determining a next hop for an IP signal and a virtual circuit for an ATM signal. See column 8, lines 42-47.)

Regarding claim 27, Cheesman discloses a telecommunications switch for switching protocol data, which comprises:

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*A processor operable to receive a network signal from the first peripheral network element and to determine a signaling type associated with the received network signal (Referring to Figure 4, ingress processor 112 parses each incoming protocol data unit, from connection and connectionless sources, to determine the service. See column 8, lines 8-10 and 30-31,) the processor further operable to generate a transport label including an instruction regarding how to process the signal according to its signaling type, and to append the transport label to the network signal based upon the determination of the signaling type to generate a formatted network signal (Referring to Figure 5, ingress processor 112 encapsulates the protocol data unit with a switching tag comprising the destination port and service-related information, based upon the signal type. See column 8, lines 42-47.)*

*A core interface operable to receive the formatted network signal and to facilitate communication of the formatted network signal to another core network element for processing according to the sub-transport label (Referring to Figure 5, switching fabric 103 operates on the internal encapsulation protocol to route protocol data units to their destination port via the egress processor 114. See column 8, lines 54-56.)*

*Cheesman does not disclose a plurality of sub-transport labels, each sub-transport label identifying a single hop of a plurality of hops between the ingress core network element and an egress core network element for connectionless signal or identifying a single path segment of a plurality of path segments between the ingress core network element and the egress core network element for a connection oriented signal.*

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label



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Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing.

Regarding claim 35, the primary reference further teaches *a peripheral interface operable to receive the network signal from the first peripheral network element, and to communicate network signals received from core network elements to the second peripheral network element* (Referring to Figure 5, switch 100 comprises access interfaces 102a, 102b, and 102c for reception and transmission flows to and from network interfaces 104a and 104b. See column 7, lines 62-65.)

Regarding claim 37 as explained above in the rejection statement of claim 19, Cheesman and Armitage teach all of the claim limitations of claim 19 (parent claim.)

Cheesman does not disclose *wherein the second core network element comprises an egress core network element operable to remove the appended transport label and communicate the signal to a destination peripheral network element.*

Armitage teaches explicit routing using label distribution. Armitage teaches an Explicit Route MEE message which specifies the Label Switched Routers that are to be used in a Label Switched Path (Referring to Figure 10, see column 6, lines 60-64.) The Explicit Route MEE message comprises addresses 1-N (plurality of sub-transport labels), addresses (single hop of a plurality of hops between the ingress and egress core network element) of the LSR's that the LSP will traverse (See column 7, lines 12-17.) As the message is propagated along the path towards the destination, a new MEE is constructed which omits the first (previous) address (See column 7, lines 20-27.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement explicit label switched path of Armitage in the system of Cheesman for both connection and connectionless oriented signals. One of ordinary skill in the art would have been motivated to do so in order to reduce the delay induced by lower-layer switching thereby improving the Quality of Service of VPN traffic as taught by Cheesman (See column 8, lines 30-37.) An added benefit of doing so would result in greater Quality of Service routing. An additional benefit of doing so would result in the reduction of data-storage requirements of the network devices for MPLS traffic.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheesman et al. (US 6,680,933 B1), hereinafter referred to as Cheesman, in view of Armitage et al. (US 6,374,303 B1), hereinafter referred to as Armitage, further in view of Raj et al. (US 6,628,649 B1), hereinafter referred to as Raj.

Regarding claim 4 as explained above in the rejection statement of claim 1, Cheesman and Armitage teach all of the claim limitations of claim 1 (parent claim.)

Cheesman does not disclose *at least some of the plurality of signals comprising multi-protocol label switching signals with asynchronous transfer mode, Frame Relay, or packet-over-SONET encoding.*

Raj teaches a switch control mechanism 201 is a label switch controller (LSC) that implements MPLS technology using a label distribution protocol such as LDP in conjunction with a routing protocol such as OSPF to control the flow of data packets in the form of labeled data portions, such as labeled ATM cells (See column 18, lines 4-9.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the labeled ATM cells of Raj in the system of Cheesman. One of ordinary skill in the art would have been motivated to do so in order to enhance the types of services supported to comprise labeled ATM cells.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-5, 8-12 and 15-37 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

*DLM*

March 14, 2006

*Seema S. Rao*  
SEEMA S. RAO 3117106  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600